CONTENTS

Foreword by MARIA STĘŚLICKA ix

I. Proceedings of the 19th International Seminar on Surface Physics

1. Atomic Structure

First Principles Studies of Overlayer-Induced Faceting 1
by C.T. CHAN, J.G. CHE and T.C. LEUNG

Surface Physics at the Nano-Scale via Scanning Probe Microscopy and Molecular Dynamics Simulations 13
by R. CZAJKA, L. JURCZYSZYN and H. RAFII-TABAR

Scanning Tunneling Microscopy Studies of Metal Clusters Supported on TiO_2(100): Morphology and Electronic Structure 25
by X. LAI, T.P. St.CLAIR, M. VALDEN and D.W. GOODMAN

Imaging of Near-Surface Atomic Structure by Forward-Focused Backscattered Electrons 53
by I.I. PRONIN and M.V. GOMOYUNOVA

Formation and Relaxation of 2D Island Arrays in Metal(100) Homoepitaxy 67
by C.R. STOLDT, A.M. CADILHE, M.C. BARTELT, C.J. JENKS, P.A. THIEL and J.W. EVANS

Surface Melting Description 79
by L. WOJTCZAK and J.H. RUTKOWSKI

Modulated Electron Emission for Structural Characterization of Buried Layers and Interfaces 91
by S. VALERI and A. DI BONA

2. Atoms and Molecules at Surfaces

Nitrous Oxide Gas Phase Chemistry During Silicon Oxynitride Film Growth 103
by A. GUPTA, S. TOBY, E.P. GUSEV, H.C. LU, Y. LI, M.L. GREEN,
T. GUSTAFSSON and E. GARFUNKEL

Ultrathin Metal Films on W(211): Structure, Electronic Properties and Reactivity 117
by J.J. KOŁODZIEJ, K. PELHOS, I.M. ABDELREHIM, J.W. KEISTER,
J.E. ROWE and T.E. MADEY

Density-Functional Theory Studies on Microscopic Processes of GaAs Growth 135
by P. KRATZER, C.G. MORGAN and M. SCHEFFLER

Density Functionals and van der Waals Interactions at Surfaces 149
by B.I. LUNDQVIST, E. HULT, H. RYDBERG, A. BOGICEVIC,
J. STRÖMQUIST and D.C. LANGRETH

Measuring Dynamical Behavior of Admolecules—ESDIAD Studies Near the Zero Point 167
by D. MOCUTA, J. AHNER and J.T. YATES, Jr.

Diffusion by Chemical Bond Hopping of Single O_2 and H on Si(111)-7x7 Surfaces 177
by T.T. TSONG

3. Electronic Structure

On Some Interfacial Fundamental Characteristics for a General Model of Giant Magnetoresistance 187
by D. BALDOMIR, M. PEREIRO, M. IGLESIAS, L. WOJTCZAK
and P. MŁYNARSKI

Electronic Structure of Crystals via VLEED 197
by I. BARTOŠ

Mesoscopic Self-Structuring on Metal Surfaces: Geometry and Electronic Structure 207
by E. BERTEL

Surface States of Electrified Binary Semiconductors 225
by S.G. DAVISON, Z.L. MIŠKOVIĆ, F.O. GOODMAN and R.A. ENGLISH

Electron Correlation Effects at Semiconductor Surfaces and Interfaces: Si(111)-5x5, Si(111)-7x7 and Sn/Ge(111) 233
by J. ORTEGA, F. FLORES, R. PÉREZ and A. LEVY YEYATI

Theory of Electron Transmission Through Atom Bridges 245
by M. TSUKADA, N. KOBAYASHI and M. BRANDBYGE

4. Other Topics

Giant Stop Bands and Defect Modes in One-Dimensional Waveguide with Dangling Side Branches 255
by B. DJAFARI-ROUHANI, J.O. VASSEUR, A. AKJOUJ, L. DOBRZYNSKI, M.S. KUSHWAHA, P.A. DEYMIER and J. ZEMMOURI

Dynamics of Anharmonic Surfaces in Harmonic Crystals 265
by P. ZIELIŃSKI, Z. ŁODZIANA and T. SROKOWSKI

II. Proceedings of the Męclewski Symposium

Professor Ryszard Męclewski: The Man and his Works 275
by R. BŁASZCZYSZYN

Surface Electronic Structure of Periodically δ-Doped Superlattice 277
by B. BRZOSTOWSKI, R. KUCHARCZYK and M. STĘŚLICKA

Hydrogen Segregation on a Palladium Hydride Surface 289
by R. DUŚ and E. NOWICKA

Horror, Happenings and Highlights in the History of Vacuum Physics 301
by Ch. KLEINT

APFIM Study of Impurities in Nanocrystalline Fe-Al Alloy 313
by A.J. MELMED, N.C. TAMBAKIS, M. LAU and E.J. LAVERNIA

Experimental Determination of the Composition Depth Profile of AuCu Alloys via Auger Electron Spectroscopy 323
by S. MRÓZ

Photofield Emission Spectroscopy 331
by T. RADOŃ

Fluctuations During Catalytic CO Oxidation on Different Crystal Planes of a Pt Field Emitter 343
by Yu. SUCHORSKI, J. BĘBEN and R. IMBIHL

Alkaline-Earth Overlayers on Furrowed Transition Metal Surfaces: An Example of Tailoring the Surface Properties 355
by I.N. YAKOVKIN, G.A. KATRICH, A.T. LOBURETS, Yu.S. VEDULA and A.G. NAUMOVETS

Contents of a Forthcoming Special Issue of *Vacuum* (contributed papers) 367